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Amendment
Attorney Docket No. E16.2H-9670-US02

Remarks

This Amendment is in response to the Office Action dated May 3, 2005. Each issue in the official action is disclosed below.

§112 Rejections

Claims 1, 9, 26 and 30-33 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. It is asserted that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In claims 30 and 32 "metals and minerals" and in claims 31 and 33 "does not produce...chlorine" lack clear antecedent basis in the specification as originally filed and appear to be drawn to new matter.

Applicant respectfully disagrees. As to the level of metals and minerals in claims 30 and 32, there is support in the specification for the water to be treated to have levels of metals and minerals at, among other places, page 3, line 20, to page 4, line 2. These elements are inherent in cooling tower water and in the explanation of the workings of the invention treatment system throughout the specification. One skill in the art of cooling tower systems would know that these water conditions exist in cooling tower systems.

As to the production of chlorine product, it is pointed out in the description that chlorine is not produced and the addition of chlorine is not needed. Among other places, when describing the inventive water treatment system's use in treating water for poultry, it is pointed out that it is an improvement over prior systems because it does not produce chlorine to treat the water, which is beneficial because poultry are repelled by the scent of chlorine (See page 9, lines 14- 24). For the above reasons, withdrawal of the rejection is requested.

Claims 26, 31 and 33 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. It is asserted that, in claims 26, 31 and 33 "quantity" is erroneous and should be changed.

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In response, Applicant has amended the claims to remove the error.

§103 Rejections

Claims 1-10 and 26-33 were rejected under 35 USC §103(a) as being unpatentable over WO 98/31636 McKay in view of Jansen (US 4790946). It is asserted in the official action that McKay discloses the structure of the cooling and water treatment systems substantially as claimed. However, the reference differs in that McKay fails to recited a titanium electrode coated with ruthenium, but, it is asserted, Jansen discloses that it is known in the art to utilize a titanium electrode with an iridium or ruthenium coating in a system for disinfecting water and it would have been obvious to one skilled in the art to modify the system of McKay in light of Jansen.

Applicant respectfully traverses the rejection. Jansen offers no motivation to alter the invention of McKay in the manner asserted in the official action. Jansen discloses a complex system and process for a preparation of a disinfectant for drinking and swimming water involving the use of chemicals, predominantly including Chlorine (among other places, see col. 3, lines 48-58). The most significant effect of this invention is to eliminate all chemicals currently used.

The cited motivation in the rejection is the use of disinfecting agents, however, Applicant's claimed invention already incorporates chemical-free disinfecting utilities, which comprise only a part of the invention's utilities and uses. Further, in disclosing the complex system of Jansen, ruthenium is only mentioned once as part of a mixture (col. 6, lines 9-14) among possible mixtures which may be used, without identifying ruthenium's purpose or utility in the disinfecting process. There is no indication that ruthenium has any particularly use other than in the overall system, as described. As such, there is no cited guiding motivation to alter the invention of McKay in the manner asserted in the rejection.

Accompanying this response is a Declaration from Scott McKay, the inventor of the present application. In the Declaration, Mr. McKay explains how he had experimented with numerous electrodes for the purpose of creating nascent oxygen, molecular oxygen, ozone, hydroxyl and perhydroxyl radicals, and hydrogen peroxide in the treatment of the water, but none worked for water treatment in cooling towers, which involves a very harsh high PH environment. Even after consulting with experts, it was not obvious what type of electrode would work in such

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an environment. After testing several types of electrodes without one actually working, it was surprising that one actually did work in the severe environment of cooling towers, that being a titanium electrode which has been coated with ruthenium. As such, it was surprising that a ruthenium coated titanium electrode would work and not an obvious solution to the problem.

Further, it would not have been obvious from the teachings of Jansen to utilize "a titanium electrode coated with ruthenium", in combination with the accompanying elements, for treatment of cooling tower water, as required by the claims. There are many water treatment systems, the elements of which are not all interchangeable. Jansen describes a system and use which one would not see to necessarily be analogous, in fact, in some ways, one could see it to be contrary to the system of the present claims.

Jansen discloses a water disinfecting system which utilizes electrolysis of an aqueous NaCl-containing solution. It enriches the NaOCl-containing solution obtained by electrolysis with Cl_2 . The product discharge is meant to utilize chlorine favorably. The system uses chlorine to disinfect the water. Chlorine is therefore abundant in the final water product.

The present invention does not attempt to produce chlorine content. In fact, it attempts to avoid chemicals. As such, the teachings of Jansen do not provide motivation or the necessary teachings to incorporate the cited coatings, as described in the rejection, into the present invention. Especially when one considers that the reference to ruthenium was mentioned so briefly.

The presently claimed invention provides for an invention which fills an unresolved industry need that, were it to be obvious, would have been utilized prior to the inventor development. Applicant has addressed and resolved a plethora of problems faced by those who use cooling tower systems. With the claimed invention the practitioner may control, among other things, scale, corrosion and biofilm. In all applications, the less fouling on the surfaces, the more efficient, and economical and long lasting the system will be. Applicant has seen improvement in important areas for secondary consideration. Because of these areas, if the invention were obvious, those skilled in the art would have taken advantage of it.

As can be seen, Applicant has provided for a much needed solution, which prior to Applicant's invention has not been forthcoming. Economics and environmental concerns dictate that an obvious solution would have previously been utilized. The present invention

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provides a more efficient, economical and improved apparatus and method which is non-chemical for these problems. As such, the benefit of protection should be provided.

For the above reasons, Applicant asserts that the claimed invention is patentable over the cited prior art. Reconsideration is respectfully requested.

Claims 11 and 12 were rejected under 35 USC §103(a) as being unpatentable over WO 98/31636 McKay in view of Jansen and further in view of Humphrey et al.

Dependent claims 11 and 12 are not obvious in light of the cited references for the reasons stated above in regard to the previous rejections, among others.

Applicant believes the claims to be in condition for allowance. If there are further issues to discuss, the Examiner is urged to contact the undersigned at 952-563-3008.

Respectfully submitted,

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